

**UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS**

SINGULAR COMPUTING LLC,

Plaintiff,

v.

GOOGLE LLC,

Defendant.

Civil Action No. 1:19-cv-12551-FDS

**JOINT CLAIM CONSTRUCTION AND PREHEARING STATEMENT**

Pursuant to the Court’s Scheduling Order (ECF No. 70) and Local Rule 16.6(e)(1)(D), plaintiff Singular Computing LLC (“Singular”) and defendant Google LLC (“Google”) submit the following joint claim construction and prehearing statement.

**I. Anticipated length of hearing**

The Court stated at the most recent status conference that each party will be allocated one hour to cover argument and any tutorial presentation. The parties both anticipate using the full hour allocated to them.

**II. Witnesses**

The parties agreed at the most recent status conference that they do not intend to call any witnesses.

**III. Tutorials and presentation materials**

The parties will incorporate into their presentations tutorials on the relevant technology. The parties have agreed to exchange all presentation materials at 6:00 p.m. Eastern time on the day before the claim construction hearing.

**IV. Order of argument**

The parties propose the following order for arguments:

1. Singular: Argument (“execution unit”/“LPHDR execution unit”)

2. Google: Argument/Rebuttal (all terms)

3. Singular: Rebuttal (“repeated execution” and “first input signal”)

Because Google bears the burden of proof of establishing indefiniteness, Google may seek leave during the course of the hearing, if necessary, to present a brief rebuttal on the “repeated execution” term following Singular’s presentation, provided that Google has not already used up its allocated hour of argument.

#### V. Claim terms to be argued

The table below lists the terms to be construed in priority order, along with each party’s proposed construction and supporting evidence.

<b>Term</b>	<b>Singular’s Proposed Construction</b>	<b>Google’s Proposed Construction</b>
<b>Term:</b> “repeated execution”  <b>Proposed By:</b> Google	<b>Construction:</b> not indefinite  <b>Supporting Evidence:</b> ’273 patent; Declaration of Sunil Khatri; Petitions and Declarations in <i>inter partes</i> review petitions IPR2021-00154, -155, -164, -165, -178, and -179; <i>Linpack performance Haswell E (Core i7 5960X and 5930X)</i> ; Oxford Dictionary of Statistics.	<b>Construction:</b> indefinite in light of analog and hybrid analog-digital embodiments.  <b>Supporting Evidence:</b> ’273 patent at 4:12-13, 10:42-45, 11:30-39, 11:53-58, 12:50-67 14:16-26, 14:53-54, 30:6-15; Declaration of Gu-Yeon Wei
<b>Term:</b> “execution unit”  <b>Proposed By:</b> Singular	<b>Construction:</b> “processing element comprising an arithmetic circuit paired with a memory circuit”  <b>Supporting Evidence:</b> ’273 patent at 8:9-11, 16:54-56, 10:30-31, 10:36-42, 10:58-67, Hennessy and Patterson, <i>Computer Architecture</i> , p. 584.	<b>Construction:</b> construed as part of “LPHDR execution unit”

<p><b>Term:</b> “LPHDR execution unit”</p> <p><b>Proposed By:</b> Google</p>	<p><b>Construction:</b> No construction needed except the term “execution unit,” as “low precision high dynamic range” is defined in claim itself</p> <p><b>Supporting Evidence:</b> ’273 patent, claim 53, ’156 patent, claim 7, ’961 patent, claims 4, 13; ’273 patent at 10:66-67, 12:54-55; Petitions and Declarations in <i>inter partes review</i> petitions IPR2021-00154, -155, -164, -165, -178, and -179.</p>	<p><b>Construction:</b> “low precision and high dynamic range processing element designed to perform arithmetic operations on numerical values”</p> <p><b>Supporting Evidence:</b> ’273 patent at 2:11-18, 2:52-53, 8:7-11, 16:49, 16:54-56, 25:41-44, 29:5-13, 29:16-19, 29:65-30:15, 31:5-13, 32:60-62, Fig. 1; Lars Wanhammer, <i>DSP Integrated Circuits</i> (1999), at 366</p>
<p><b>Term:</b> “first input signal representing a first numerical value”</p> <p><b>Proposed By:</b> Google</p>	<p><b>Construction:</b> plain and ordinary meaning</p> <p><b>Supporting Evidence:</b> ’273 patent, claim 53, ’156 patent, claim 7, ’961 patent, claims 4, 13; ’273 patent at 10:64-67, 12:54-55, 2:52-57, 11:54, 6:23-24, 24:47-49, Figure 4; Petitions and Declarations in <i>inter partes review</i> petitions IPR2021-00154, -155, -164, -165, -178, and -179.</p>	<p><b>Construction:</b> “a digital and/or analog representation of a value that the LPHDR execution unit operates on”</p> <p><b>Supporting Evidence:</b> ’273 patent at Abstract, 2:9-18, 3:8-18, 4:32-45, 6:23-24, 10:63-67, 11:54, 12:50-55, 12:62-65, 13:23-25, 14:19-20, 14:53-54, 24:47-49, 24:54-57, 26:46-47, 27:6-10, 27:35-37, 29:65-30:15, 30:57-59, Fig. 6; Dkt. 37 ¶¶ 35, 46a, 85, 90c, 94, 111, 129.</p>

Dated: February 22, 2021

Respectfully submitted,

/s/ Paul J. Hayes

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**CERTIFICATE OF SERVICE**

I hereby certify that all counsel of record who have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system.

/s/ Paul J. Hayes